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COPPER • BRASS • BRONZE

copper supply & consumption

1962-1981

COPPER DEVELOPMENT ASSOCIATION INC.

Preface

Statistical data on the supply and consumption of copper and copper alloys in the United States are available from many governmental and private sources. In this report original data from these sources are brought together and rationalized by CDA and American Bureau of Metal Statistics Inc. (ABMS) to provide a set of data on U.S. copper supply and consumption that is both consistent and accurate in all aspects from mine to end-use market.

The main sources of information assembled here are the Bureau of Mines in the U.S. Department of the Interior, the Bureau of the Census in the U.S. Department of Commerce, and Copper Development Association Inc. Where data from different sources are conflicting, and where original data appear to be in error, the best judgment has been applied. General sources are shown in the tables throughout the report. Those interested to know the specific sources of any of the data should contact CDA.

The statistics are arranged in a logical sequence to trace the flow of copper in the U.S. economy from mining and scrap collection through smelting, refining and ingot making to the wire rod and wire mills, brass mills, and foundries and then on to the final end-use markets. This flow is shown schematically on pages 4–5. On this schematic flowsheet the major statistics of copper supply and consumption in the United States for 1981 appear. Along with each major statistic on the chart, a reference is shown. This reference identifies the table in the report where details on that item, from 1962 through 1981, will be found. Most data for 1981 are preliminary.

There are four major tables in the report. *Table 1* covers the supply of primary copper. *Table 2* presents data on the supply of copper from secondary sources. In *Table 3*, statistics on the consumption of primary and secondary metals by mills, foundries and other industries are summarized. These three tables are provided by ABMS. Finally, *Table 4* details the supply of mill, foundry and powder products and their consumption in the five end-use market areas. In each of these tables, additions to the flow (such as net imports) are indicated as positive numbers, while subtractions from the flow (such as melting losses or net additions to stocks) are shown as negative numbers.

The arrangement of the data in the report can be illustrated with an example. Consider *Mine Production*, the upper left-hand box in the flowsheet on page 4. As shown in the box, mine production of copper in the United States totalled 1,685.4 thousand short tons in 1981. Beneath this figure a number appears referring to *Table 1, Item 1*, abbreviated *1(1)*. This means that in *Table 1*, on Line (1), mine production is shown for the full period 1962 through 1981. In *Table 1*, on Line (1), a further reference will be found after the item heading *Mine Production*, directing the reader to page 7. This reference means that further details on mine production appear on page 7. In fact, on page 7, a table entitled *Table 1, Item 1* presents the data on mine production by state for 1962 through 1981. In this way all the data on supply and consumption appear in logical sequence proceeding through the report, eliminating the need for explanatory text.

This year the report has been extensively rearranged in a space-saving format. A major feature is the addition of more summary data in the various tables.

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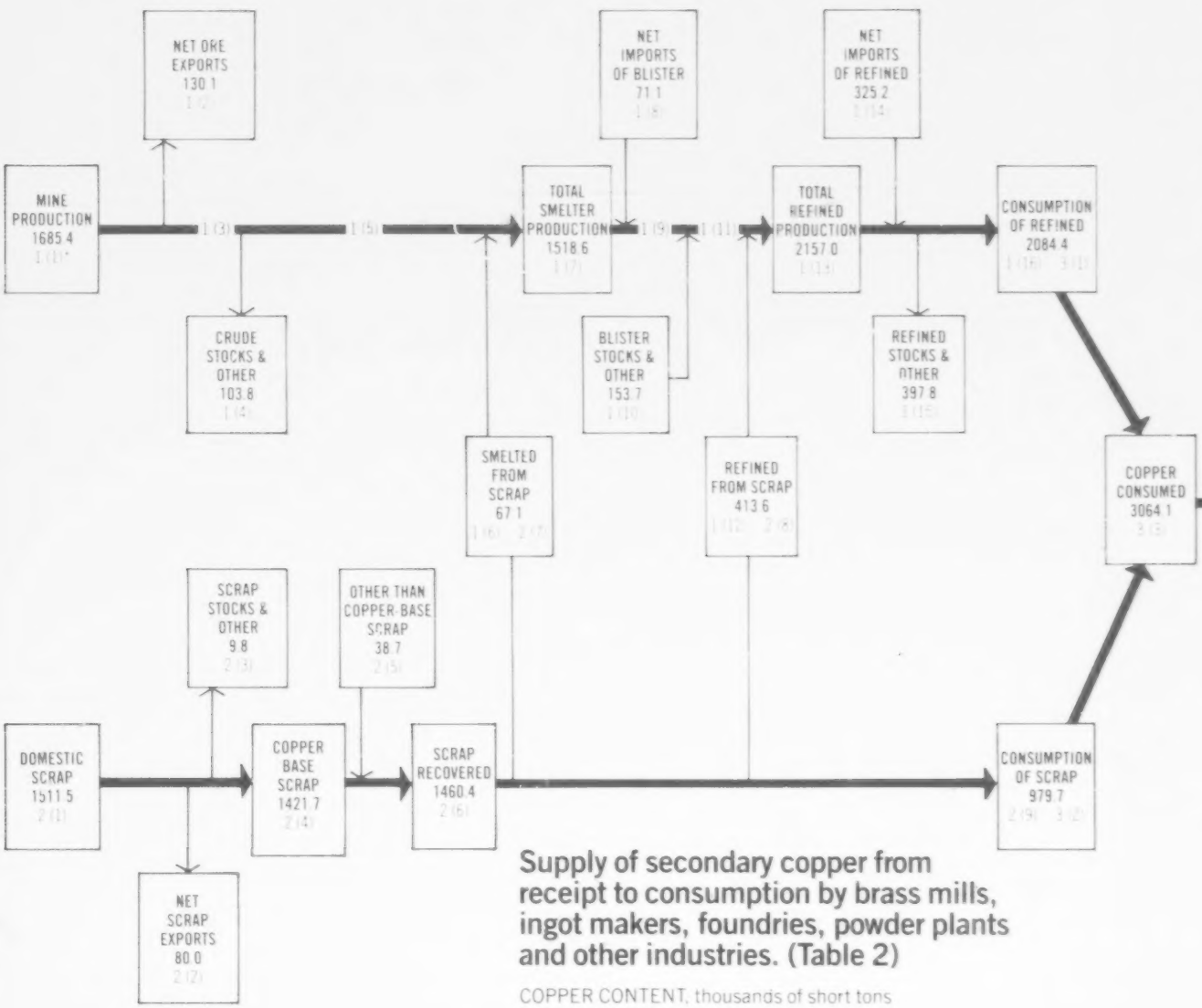
Copper supply and consumption in the United States 1981

Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 1)

COPPER CONTENT, thousands of short tons


NET ORE EXPORTS 130.1
NET IMPORTS OF BLISTER 71.1
NET IMPORTS OF REFINED 325.2
MINE PRODUCTION 1685.4
TOTAL SMELTER PRODUCTION 1518.6
TOTAL REFINED PRODUCTION 2157.0
CONSUMPTION OF REFINED 2084.4
CRUDE STOCKS & OTHER 103.8
BLISTER STOCKS & OTHER 153.7
REFINED STOCKS & OTHER 397.8
SMELTED FROM SCRAP 67.1
REFINED FROM SCRAP 413.6
COPPER CONSUMED 3064.1
SCRAP STOCKS & OTHER 9.8
OTHER THAN COPPER-BASE SCRAP 38.7
DOMESTIC SCRAP 1511.5
COPPER BASE SCRAP 1421.7
SCRAP RECOVERED 1460.4
CONSUMPTION OF SCRAP 979.7
NET SCRAP EXPORTS 80.0

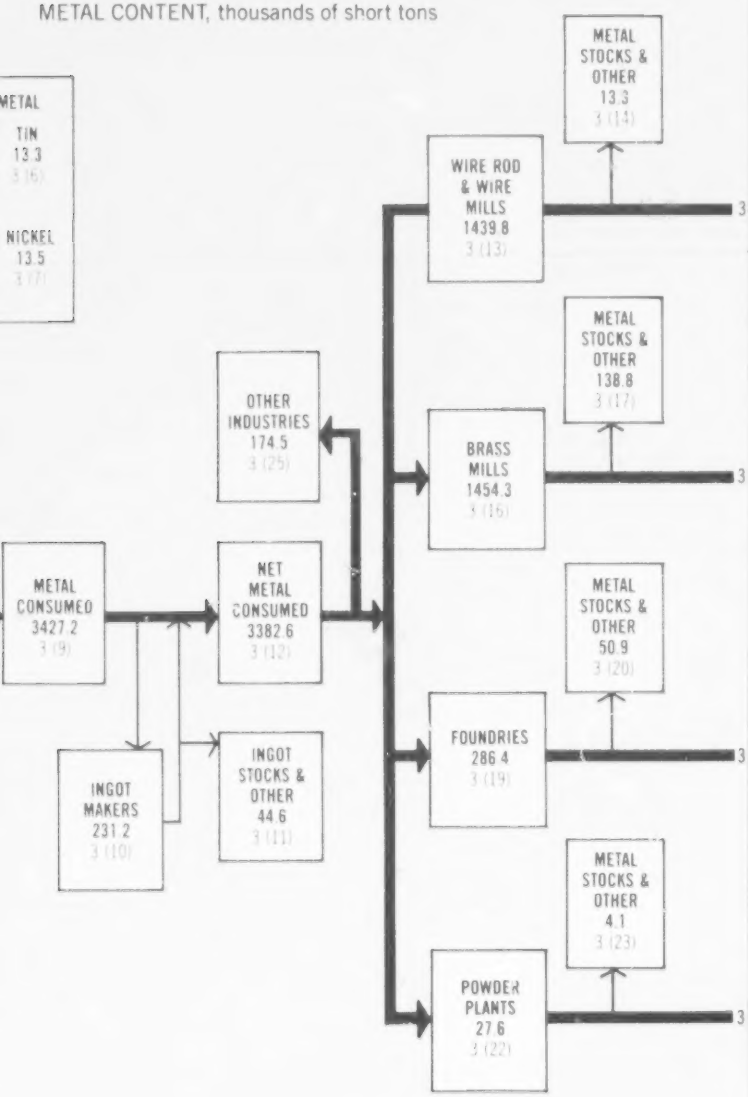
Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries. (Table 2)

COPPER CONTENT, thousands of short tons

*1 (1) Refers to table and item in report where data for 1962 through 1981 appear

Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 3)

METAL CONTENT, thousands of short tons



Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets. (Table 4)

METAL CONTENT, millions of pounds

Table 1

Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

COPPER CONTENT, thousands of short tons

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
(1) Mine Production (page 7)	1,228.4	1,213.2	1,246.8	1,351.7	1,429.2	954.1	1,204.6	1,544.6	1,719.7	1,522.2	1,664.8	1,717.9	1,597.0	1,413.4	1,605.6	1,504.0	1,496.5	1,591.2	1,287.8	1,685.4
(2) Net Ore Imports (page 8)	43.3	48.3	51.5	26.3	40.5	−5.7	−37.4	37.9	−27.7	23.1	35.4	19.4	36.7	65.7	74.8	42.2	13.9	−23.9	−101.2	−130.1
(3) Total Crude Primary	1,271.7	1,261.5	1,298.3	1,378.0	1,469.7	948.4	1,167.2	1,582.5	1,692.0	1,545.3	1,700.2	1,737.3	1,633.7	1,479.1	1,680.4	1,546.2	1,510.4	1,567.3	1,186.6	1,555.3
(4) Crude Stocks and Other	−17.1	−3.6	−1.2	−11.1	−80.0	−86.1	99.3	3.0	−50.7	−45.3	−9.8	6.7	−63.8	−32.0	−145.7	−111.0	−90.2	−95.0	−75.1	−103.8
(5) Smelter Production From Primary	1,254.6	1,257.9	1,297.1	1,366.9	1,389.7	862.3	1,266.5	1,585.5	1,641.3	1,500.0	1,690.4	1,744.0	1,569.9	1,447.1	1,534.7	1,435.2	1,420.2	1,472.3	1,111.5	1,451.5
(6) Smelter Production From Scrap	86.9	98.0	88.4	93.9	114.6	70.7	84.8	77.3	78.9	66.3	69.0	77.8	79.5	49.4	51.0	49.4	59.8	66.4	49.5	67.1
(7) Total Smelter Production (page 9)	1,341.5	1,355.9	1,385.5	1,460.8	1,504.3	933.0	1,351.3	1,662.8	1,720.2	1,566.3	1,759.4	1,821.8	1,649.4	1,496.5	1,585.7	1,484.6	1,480.0	1,538.7	1,161.0	1,518.6
(8) Net Imports of Blister (page 8)	330.1	367.8	384.8	327.7	349.2	248.3	255.0	233.6	216.6	128.0	148.9	146.6	205.1	87.4	41.1	28.3	70.0	66.9	47.6	71.1
(9) Total Blister	1,671.6	1,723.7	1,770.3	1,788.5	1,853.5	1,181.3	1,606.3	1,896.4	1,936.8	1,694.3	1,908.3	1,968.4	1,854.5	1,583.9	1,626.8	1,512.9	1,550.0	1,605.6	1,208.6	1,589.7
(10) Blister Stocks and Other (page 9)	27.1	−29.4	−25.6	17.2	−27.9	22.4	−84.1	−76.3	−92.8	−36.2	33.9	−22.1	−120.3	−91.1	−36.5	32.7	107.1	131.2	175.6	153.7
(11) Refined Production from Blister	1,698.7	1,694.3	1,744.7	1,805.7	1,825.6	1,203.7	1,522.2	1,820.1	1,844.0	1,658.1	1,942.2	1,946.3	1,734.2	1,492.8	1,590.3	1,545.6	1,657.1	1,736.8	1,384.2	1,743.4
(12) Refined Production from Scrap	185.8	190.1	245.7	335.1	357.7	322.9	316.8	394.8	398.7	304.3	316.3	366.3	404.4	282.1	300.2	303.0	362.3	441.2	474.3	413.6
(13) Total Refined Production (page 10)	1,884.5	1,884.4	1,990.4	2,140.8	2,183.3	1,526.6	1,839.0	2,214.9	2,242.7	1,962.4	2,258.5	2,312.6	2,138.6	1,774.9	1,890.5	1,848.6	2,019.4	2,178.0	1,858.5	2,157.0
(14) Net Imports of Refined (page 8)	−238.7	−193.4	−179.0	−193.5	−117.0	168.7	149.3	−83.8	−89.9	−23.7	9.7	8.8	177.2	−26.4	266.1	327.8	342.7	147.1	481.1	325.2
(15) Refined Stocks and Other (page 9)	−37.7	61.7	51.2	85.7	310.0	288.3	−109.9	19.1	−102.3	82.3	−30.6	126.9	−[illegible]3	−206.2	−159.1	16.8	59.6	60.9	−280.8	−397.8
(16) Consumption of Refined (page 10)	1,608.1	1,752.7	1,862.6	2,033.0	2,376.3	1,983.6	1,878.4	2,150.2	2,050.5	2,021.0	2,237.6	2,448.3	2,[illegible]	1,542.3	1,997.5	2,193.2	2,421.7	2,386.0	2,058.8	2,084.4

Sources: U.S. Department of the Interior, Bureau of Mines;
U.S. Department of Commerce, Bureau of the Census.
p - preliminary.

Table 1, Item 1.

Mine production of recoverable copper in the United States

COPPER CONTENT, thousands of short tons

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Arizona	644.2	661.0	691.0	703.4	739.6	501.7	628.0	801.4	917.9	820.2	908.6	927.3	858.8	813.2	1,024.4	923.8	982.6	1,042.8	834.8	1,143.3
Michigan	74.1	75.3	69.0	71.7	73.4	58.5	74.8	75.2	67.5	56.0	67.3	72.2	67.0	73.7	43.7	42.4	38.4	(b)	(b)	(b)
Missouri	2.8	1.8	2.1	2.3	3.9	3.2	5.5	12.7	12.1	8.4	11.5	10.3	12.7	14.3	11.1	11.7	11.9	14.4	15.0	9.4
Montana	94.0	79.8	103.8	115.5	128.1	65.5	69.5	103.3	120.4	88.6	123.1	132.5	121.1	88.0	91.1	86.2	74.2	77.0	41.6	68.3
Nevada	82.6	81.7	67.3	71.3	78.7	50.8	77.2	104.9	106.7	96.9	101.1	93.7	84.1	81.2	58.2	67.1	22.5	(b)	(b)	(b)
New Mexico	82.7	83.0	86.1	98.7	108.6	75.0	90.8	120.0	166.3	157.4	168.0	204.7	196.6	146.3	172.4	164.7	140.9	181.1	164.7	170.0
Tennessee	14.3	13.7	13.9	14.8	15.4	14.6	14.7	15.4	15.5	13.9	11.3	8.5	6.3	10.0	11.1	6.2	12.4	(b)	(b)	(b)
Utah	218.0	203.1	199.6	259.1	265.4	168.6	228.2	296.7	295.7	263.5	259.5	256.6	230.6	177.2	185.5	194.1	205.4	212.8	173.9	229.1
Other States[a]	15.7	13.8	14.0	14.9	16.1	16.2	16.4	15.0	17.6	17.3	14.4	12.1	9.8	9.5	8.1	7.8	8.2	63.1	57.8	65.3
TOTAL	1,228.4	1,213.2	1,246.8	1,351.7	1,429.2	954.1	1,204.6	1,544.6	1,719.7	1,522.2	1,664.8	1,717.9	1,597.0	1,413.4	1,605.6	1,504.0	1,496.5	1,591.2	1,287.8	1,685.4

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary.
(a) - Includes California, Colorado, Idaho, Maine, Oregon, Pennsylvania & Washington.
(b) - Included in Other States.

Mine production of recoverable copper in the World

COPPER CONTENT, thousands of short tons

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Australia	119.8	126.5	117.2	101.2	122.7	101.2	120.8	144.2	173.9	195.4	204.8	242.8	277.0	241.4	240.9	244.3	244.8	261.9	268.5	246.2
Canada	457.3	452.6	486.9	507.8	506.1	613.3	633.3	573.2	672.7	721.5	793.3	908.2	905.4	808.9	805.7	837.1	726.9	701.5	789.6	791.5
Chile	645.8	662.6	685.3	645.2	701.8	727.7	724.1	758.5	762.4	780.8	790.1	810.6	994.4	913.0	1,108.0	1,164.3	1,141.4	1,169.6	1,176.9	1,191.4
China	77.2	82.7	80.5	84.9	93.7	99.2	99.2	93.7	110.2	121.3	126.8	132.3	143.3	154.3	165.3	170.9	176.4	176.4	181.9	181.5
Japan	114.2	118.2	117.1	118.1	123.1	129.9	132.2	133.5	131.7	133.4	123.6	100.6	90.5	93.7	89.9	89.7	79.4	65.1	58.6	56.5
Mexico	51.9	60.7	57.4	60.8	62.3	61.7	67.4	73.0	67.2	69.7	86.8	88.7	91.2	86.5	98.1	98.9	96.1	118.1	193.3	200.0
Papua New Guinea	–	–	–	–	–	–	–	–	–	–	136.7	201.6	202.9	190.1	194.6	201.0	218.9	188.3	161.8	182.1
Peru	182.3	198.5	194.4	198.7	220.5	212.4	234.2	219.1	242.7	228.5	241.5	223.4	233.2	182.8	244.2	363.1	414.9	437.8	402.7	369.5
Philippines	60.3	70.2	66.7	69.1	81.4	95.0	121.6	144.8	176.7	217.8	235.6	243.8	248.6	248.9	261.9	300.7	290.3	331.2	335.7	336.5
Poland	14.3	14.3	14.8	16.6	17.7	19.1	28.5	53.2	91.4	134.7	148.8	167.6	203.9	253.5	289.9	310.9	343.9	374.8	381.5	347.5
Scandinavia	75.8	67.8	69.8	66.6	62.3	64.6	71.7	87.5	84.9	88.6	100.1	124.5	110.7	118.5	129.7	133.0	135.9	127.4	119.6	125.1
South Africa	53.2	62.8	67.6	66.7	137.5	140.5	138.5	140.1	164.5	173.6	178.5	193.8	197.4	197.2	217.0	238.2	230.7	224.0	233.6	228.8
United States	1,228.4	1,213.2	1,246.8	1,351.7	1,429.2	954.1	1,204.6	1,544.6	1,719.7	1,522.2	1,664.8	1,717.9	1,597.0	1,413.4	1,605.6	1,504.0	1,496.5	1,591.2	1,287.8	1,663.4
USSR	606.3	606.3	716.5	716.5	771.6	881.8	909.4	964.5	1,019.6	1,091.3	1,135.4	1,168.4	1,168.4	1,212.5	1,245.6	1,212.5	1,256.6	1,267.7	1,267.7	1,267.0
Yugoslavia	57.0	68.5	69.7	69.0	64.5	69.7	77.7	90.1	100.1	104.1	113.6	123.2	123.6	126.7	132.4	128.1	135.9	122.8	128.7	111.7
Zaire	327.4	299.1	304.9	318.1	349.3	353.3	359.4	401.4	426.7	448.8	480.3	538.5	550.8	545.4	490.1	530.9	467.2	440.7	506.7	526.8
Zambia	619.8	648.3	697.0	766.9	687.2	730.8	755.0	793.1	754.1	718.0	790.5	778.9	769.4	746.2	781.4	723.1	708.8	648.5	656.8	649.8
Other	282.8	297.4	306.9	322.5	328.6	331.3	347.4	336.2	359.2	389.7	434.3	517.5	546.8	532.9	545.7	527.1	486.7	508.2	480.1	523.0
TOTAL WORLD	4,973.8	5,049.7	5,299.5	5,480.4	5,759.5	5,585.6	6,024.8	6,550.7	7,057.7	7,139.4	7,785.5	8,282.3	8,454.6	8,065.9	8,646.0	8,777.8	8,651.3	8,755.2	8,641.5	9,020.3

Sources: United States – U.S. Department of the Interior, Bureau of Mines.
Other Countries – ABMS; Metallgesellschaft; CDA.
p - preliminary.

Table 1, Item 2.

Imports and exports of copper ore in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Imports (Ore, Concentrate, Matte)	43.6	48.4	52.1	37.0	41.9	33.0	27.6	39.1	33.8	31.3	55.0	42.9	56.0	74.0	89.6	58.0	33.2	25.2	16.5	36.1
Exports (Ore, Concentrate, Matte)	–0.3	–0.1	–0.6	–10.7	–1.4	–38.7	–65.0	–1.2	–61.5	–8.2	–19.6	–23.5	–19.3	–8.3	–14.8	–15.8	–19.3	–49.1	–117.7	–166.2
Net Imports (Ore, Concentrate, Matte)	43.3	48.3	51.5	26.3	40.5	–5.7	–37.4	37.9	–27.7	23.1	35.4	19.4	36.7	65.7	74.8	42.2	13.9	–23.9	–101.2	–130.1

Source: U.S. Department of Commerce, Bureau of the Census
p - preliminary

Table 1, Item 8.

Imports and exports of blister copper in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Imports of Blister Copper	331.7	368.9	389.6	332.5	349.9	269.3	270.7	237.9	224.4	156.7	157.4	154.1	207.8	88.9	43.8	44.7	81.4	75.1	51.8	81.3
Exports of Blister Copper	–1.6	–1.1	–4.8	–4.8	–0.7	–21.0	–15.7	–4.3	–7.8	–28.7	–8.5	–7.5	–2.7	–1.5	–2.7	–16.4	–11.4	–8.2	–4.2	–10.2
Net Imports of Blister Copper	330.1	367.8	384.8	327.7	349.2	248.3	255.0	233.6	216.6	128.0	148.9	146.6	205.1	87.4	41.1	28.3	70.0	66.9	47.6	71.1

Source: U.S. Department of Commerce, Bureau of the Census
p - preliminary

Table 1, Item 14.

Imports and exports of refined copper in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Imports of Refined Copper	98.8	119.2	138.0	137.4	162.6	330.3	400.3	131.2	132.1	164.0	192.4	199.9	303.9	146.0	380.7	390.8	455.8	237.2	505.0	391.2
Exports of Refined Copper	–337.5	–312.6	–317.0	–330.9	–279.6	–161.6	–251.0	–215.0	–222.0	–187.7	–182.7	–191.1	–126.7	–172.4	–114.6	–63.0	–113.1	–90.1	–23.9	–66.0
Net Imports of Refined Copper	–238.7	–193.4	–179.0	–193.5	–117.0	168.7	149.3	–83.8	–89.9	–23.7	9.7	8.8	177.2	–26.4	266.1	327.8	342.7	147.1	481.1	325.2

Source: U.S. Department of Commerce, Bureau of the Census,
p - preliminary

Table 1, Item 7.

Smelter production of copper in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Smelter Production – Domestic Ore[a] (Table 1, Item 5)	1,214.1	1,219.3	1,259.8	1,335.7	1,353.1	841.3	1,234.7	1,547.5	1,605.2	1,470.8	1,649.1	1,705.1	1,532.1	1,374.3	1,461.3	1,394.4	1,399.9	1,447.6	1,096.2	1,427.5
Smelter Production – Foreign Ore (Table 1, Item 5)	40.5	33.6	37.2	31.2	36.6	21.0	31.8	38.0	35.1	29.2	41.3	38.9	37.8	72.8	73.4	40.8	20.3	24.7	15.3	24.0
Smelter Production – Scrap (Table 1, Item 6)	86.9	38.0	88.4	93.9	114.6	70.7	84.8	77.3	78.3	66.3	69.0	77.8	79.5	49.4	51.0	49.4	59.8	66.4	49.5	67.1
TOTAL SMELTER PRODUCTION	1,341.5	1,355.9	1,385.5	1,460.8	1,504.3	933.0	1,351.3	1,662.8	1,720.2	1,566.3	1,759.4	1,821.8	1,649.4	1,496.5	1,585.7	1,484.6	1,480.0	1,538.7	1,161.0	1,518.6

Sources: U.S. Department of the Interior, Bureau of Mines.
p - preliminary.
(a) For 1962 thru 1966, CDA used figures for refined production, rather than smelter production, from domestic ores.

Table 1, Item 10.

Blister stocks and other

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
End-of-Year Blister Copper Stocks	246.0	252.0	246.0	246.0	270.0	220.0	272.0	291.0	340.0	303.0	282.0	265.0	324.0	312.0	321.0	346.0	290.0	303.1	299.8	303.1
Net Change[a]	10.0	6.0	6.0	–	24.0	−50.0	52.0	19.0	49.0	−37.0	−21.0	−17.0	59.0	−12.0	9.0	25.0	−56.0	13.1	−3.3	3.3
Apparent Change[b]	27.1	29.4	25.6	−17.2	27.9	−22.4	84.1	7.3	92.6	36.2	−33.9	22.1	120.3	91.1	36.5	−32.7	−107.1	−131.2	−175.6	−153.7

Sources: U.S. Department of the Interior, Bureau of Mines, ABMS.
p - preliminary.
(a) - Net Change – the year-to-year increase (+) or decrease (−) of blister copper stocks as reported.
(b) - Apparent Change – the difference between Lines 9 & 11 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+ or −) is opposite that shown in Table 1.

Table 1, Item 15.

Refined stocks and other

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Refined Copper Stocks at:																				
Refineries	113.4	75.2	42.5	53.4	61.6	41.7	44.9	41.9	142.7	82.7	99.6	43.2	151.6	260.7	272.8	286.7	188.3	78.4	73.4	151.0
Wire Rod Mills	61.0	39.0	49.0	53.0	80.0	47.0	54.0	63.0	134.0	120.0	75.0	61.0	131.0	140.0	133.0	116.3	69.7	48.7	54.6	120.3
Brass Mills	39.0	39.0	56.0	55.0	84.0	51.0	57.0	56.0	49.0	50.0	35.0	43.0	42.0	33.0	39.0	34.2	30.7	27.0	24.5	28.7
Other Processors	4.0	5.0	5.0	5.0	10.0	5.0	4.0	6.0	4.0	6.0	5.4	5.6	6.9	6.1	7.0	7.0	7.5	10.4	11.3	10.4
Government	1,058.6	1,047.2	1,019.9	897.4	452.4	275.2	261.4	253.4	253.4	251.6	226.6	217.8	35.3	26.2	42.1	22.6	22.5	22.3	22.3	22.3
Commodity Exchange	4.0	1.7	3.1	10.4	4.1	13.7	11.7	4.0	17.9	20.3	57.8	5.9	43.3	100.0	201.0	184.4	179.6	107.9	179.6	187.6
End-of-Year Total	1,280.0	1,207.1	1,175.5	1,071.2	692.1	433.6	433.0	424.3	601.0	530.6	499.4	376.5	410.1	566.0	694.9	651.2	498.3	294.7	365.7	520.3
Net Change[a]	31.2	−72.9	−31.6	−104.3	−379.1	−258.5	−0.6	−8.7	176.7	−70.4	−31.2	−122.9	33.6	155.9	128.9	−43.7	−152.9	−203.6	71.0	154.6
Apparent Change[b]	37.7	−61.7	−51.2	−85.7	−310.0	−288.3	109.3	−19.1	102.3	−82.3	30.6	−126.9	112.3	206.2	159.1	−16.8	−59.6	−60.9	280.8	397.8

Sources: U.S. Department of the Interior, Bureau of Mines, ABMS.
p - preliminary.
(a) - Net Change – the year-to-year increase (+) or decrease (−) of refined copper stocks as reported.
(b) - Apparent Change – the difference between Line 16 and the sum of Lines 13 & 14 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+ or −) is opposite that shown in Table 1.

Table 1, Item 13.

Production of refined copper in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Refined Production - Primary Sources (Table 1, Items 1, 2, 4, 8 & 10)	1,611.8	1,596.3	1,656.3	1,711.8	1,711.0	1,133.0	1,437.4	1,742.8	1,765.1	1,591.8	1,873.2	1,868.5	1,654.7	1,443.4	1,539.3	1,496.2	1,597.3	1,670.4	1,334.7	1,676.3
Refined Production - Scrap at Smelters (Table 1, Item 6)	86.9	98.0	88.4	93.9	114.6	70.7	84.8	77.3	78.9	66.3	59.0	77.8	79.5	49.4	51.0	45.4	59.8	66.4	49.5	67.1
Refined Production - Scrap at Refiners (Table 1, Item 12)	185.8	190.1	245.7	335.1	357.7	322.9	316.8	394.8	398.7	304.3	316.3	366.3	404.4	282.1	300.2	303.0	362.3	441.2	474.3	413.6
TOTAL REFINED PRODUCTION	1,884.5	1,884.4	1,990.4	2,140.8	2,183.3	1,526.6	1,839.0	2,214.9	2,242.7	1,962.4	2,258.5	2,312.6	2,138.6	1,774.9	1,890.5	1,848.6	2,019.4	2,178.0	1,858.5	2,157.0

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary.

Table 1, Item 16.

Consumption of refined copper in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Consumption of Refined Copper by:																				
Wire Rod Mills	935.0	1,027.0	1,111.0	1,228.0	1,376.0	1,274.0	1,186.0	1,295.0	1,338.7	1,324.9	1,526.3	1,572.3	1,474.3	1,061.3	1,364.0	1,511.2	1,672.7	1,653.0	1,442.8	1,439.8
Brass Mills	633.2	689.4	711.1	766.2	939.7	658.9	653.6	799.1	660.6	655.8	657.2	714.4	670.2	439.0	584.8	628.6	682.6	672.6	564.0	591.5
Ingot Makers	3.3	3.3	3.5	4.4	17.7	8.6	5.7	6.7	6.8	4.5	6.0	6.1	9.2	4.5	7.5	6.6	8.2	6.9	5.5	5.6
Foundries	18.7	15.7	19.2	16.0	21.4	22.2	14.9	23.8	23.7	17.5	17.9	30.6	28.7	21.7	21.0	22.5	22.1	19.9	18.2	17.5
Powder Plants	7.4	8.1	7.8	9.4	13.1	6.5	7.7	9.8	6.5	7.2	9.5	12.7	12.0	6.8	11.8	11.3	11.5	11.6	8.3	8.8
Other Industries[(a)]	10.5	9.2	10.0	9.0	8.4	13.4	10.5	15.8	14.2	11.1	10.7	12.2	9.1	9.0	8.4	13.0	24.6	22.0	20.0	21.2
TOTAL REFINED CONSUMPTION	1,608.1	1,752.7	1,862.6	2,033.0	2,376.3	1,983.6	1,878.4	2,150.2	2,050.5	2,021.0	2,237.6	2,448.3	2,203.5	1,542.3	1,997.5	2,193.2	2,421.7	2,386.0	2,058.8	2,084.4

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary.
(a) - Chemical, steel, aluminum and other industries.

Table 2

Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries

COPPER CONTENT, thousands of short tons

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
(1) Receipts of Domestic Scrap	1,063.7	1,123.5	1,309.4	1,438.4	1,468.5	1,309.3	1,368.2	1,552.8	1,447.6	1,334.9	1,440.8	1,560.9	1,504.3	1,113.0	1,271.1	1,318.4	1,426.9	1,661.6	1,541.8	1,511.5
(2) Net Scrap Exports (page 12)[(a)]	−31.1	−35.0	−88.7	−62.6	−18.1	−45.1	−76.6	−46.9	−79.0	−50.7	−39.2	−81.4	−70.5	−84.3	−54.1	−58.5	−95.9	−100.7	−120.8	−80.0
(3) Scrap Stocks (page 12)	−20.0	−1.0	11.0	−2.0	−5.0	−18.0	32.0	−15.0	−13.0	17.0	7.0	−2.0	−3.0	5.0	−19.0	−10.9	22.7	−10.6	12.1	−9.8
(4) Recovery From Copper-Base Scrap (page 13)	1,012.6	1,087.5	1,231.7	1,373.8	1,445.4	1,246.2	1,323.6	1,490.9	1,355.6	1,301.2	1,408.6	1,477.5	1,430.8	1,033.7	1,198.0	1,249.0	1,353.7	1,550.3	1,433.1	1,421.7
(5) Recovery From Other Scrap (page 13)	13.1	13.6	14.4	16.2	16.9	16.4	16.0	19.0	16.8	17.0	19.7	21.1	21.1	28.1	35.7	37.9	39.8	42.5	38.9	38.7
(6) Total Scrap Recovery (page 13)	1,025.7	1,101.1	1,246.1	1,390.0	1,462.3	1,262.6	1,339.6	1,509.9	1,372.4	1,318.2	1,428.3	1,498.6	1,451.9	1,061.8	1,233.7	1,286.9	1,393.5	1,592.8	1,472.0	1,460.4
(7) Smelter Production From Scrap	−86.9	−98.0	−88.4	−93.9	−114.6	−70.7	−84.8	−77.3	−78.9	−66.3	−69.0	−77.8	−75.5	−49.4	−51.0	−49.4	−59.8	−66.4	−49.5	−67.1
(8) Refined Production From Scrap	−185.8	−190.1	−245.7	−335.1	−357.7	−322.9	−316.8	−394.8	−398.7	−304.3	−316.3	−366.3	−404.4	−282.1	−300.2	−303.0	−362.3	−441.2	−474.3	−413.6
(9) Consumption of Scrap (page 13)	753.0	813.0	912.0	961.0	990.0	869.0	938.0	1,037.8	894.8	947.6	1,043.0	1,054.5	968.0	730.3	882.5	934.5	971.4	1,085.2	948.2	979.7

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary.

(a) - Negative (−) signs denote net exports.

Table 2, Item 2.

Imports and exports of copper-base scrap in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Imports of Copper-Base Scrap	7.2	4.0	5.2	16.8	31.7	11.4	12.5	7.7	3.8	13.8	18.8	27.1	41.7	20.2	29.4	28.6	28.8	32.0	32.5	38.8
Exports of Copper-Base Scrap	−38.3	−39.0	−93.9	−79.4	−49.8	−56.5	−89.1	−54.6	−82.8	−64.5	−58.0	−108.5	−112.2	−104.5	−83.5	−87.1	−124.7	−132.7	−153.3	−118.8
Net Exports of Copper-Base Scrap[(a)]	−31.1	−35.0	−88.7	−62.6	−18.1	−45.1	−76.6	−46.9	−79.0	−50.7	−39.2	−81.4	−70.5	−84.3	−54.1	−58.5	−95.9	−100.7	−120.8	−80.0

Sources: U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary.
(a) - The negative (−) sign for each year is used to be consistent with the convention used in Tables 1, 2 and 4 – namely that imports are **additions** to the domestic flow, and therefore (+), while exports are **subtractions** from the flow, and therefore (−).

Table 2, Item 3.

Copper-base scrap stocks

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Scrap Copper-Base Stocks at:																				
Brass Mills	36.0	47.0	30.0	39.0	44.0	61.0	39.0	39.0	43.0	37.0	36.0	44.0	45.0	46.0	48.0	54.7	44.4	45.6	44.9	39.5
Secondary Smelters	20.0	21.0	22.0	21.0	23.0	26.0	22.0	21.0	19.0	24.0	22.0	23.0	24.0	27.0	28.0	33.2	26.0	30.1	30.5	41.7
Primary Producers	39.0	26.0	31.0	28.0	29.0	22.0	20.0	36.0	49.0	27.0	24.0	19.0	18.0	12.0	25.0	27.7	22.1	27.5	16.6	19.1
Foundries	14.0	15.0	14.0	11.0	8.0	13.0	10.0	10.0	8.0	14.0	13.0	11.0	13.0	11.0	13.0	11.3	10.8	10.7	9.9	11.1
Other Processors	3.0	4.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	2.0	2.9	2.9	2.8	3.1
End-of-Year Total	112.0	113.0	102.0	104.0	109.0	127.0	95.0	110.0	123.0	106.0	99.0	101.0	104.0	99.0	118.0	128.9	106.2	116.8	104.7	114.5
Net Change[(a)]	20.0	1.0	−11.0	2.0	5.0	18.0	−32.0	15.0	13.0	−17.0	−7.0	2.0	3.0	−5.0	19.0	10.9	−22.7	10.6	−12.1	9.8

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary.
(a) - Net Change – the year to-year increase (+) or decrease (−) of stocks as reported. The sign of the data (+ or −) is opposite that shown in Table 2.

Table 2, Item 6.

Recovery of copper from scrap

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Copper Recovered From Copper Base Scrap																				
New Scrap	532.2	581.5	666.1	765.9	818.3	673.7	719.9	804.9	734.2	752.5	854.4	901.9	864.2	593.6	716.1	731.2	790.4	947.0	828.5	828.1
Old Scrap	480.4	506.0	565.6	607.9	627.1	572.5	603.7	686.0	621.4	548.7	554.2	575.6	566.6	440.1	481.9	517.8	563.3	603.3	604.6	593.6
Total (Table 2, Item 4)	1,012.6	1,087.5	1,231.7	1,373.8	1,445.4	1,246.2	1,323.6	1,490.9	1,355.6	1,301.2	1,408.6	1,477.5	1,430.8	1,033.7	1,198.0	1,249.0	1,353.7	1,550.3	1,433.1	1,421.7
Copper Recovered From Scrap Other Than Copper-Base																				
New Scrap	7.9	8.2	9.2	9.8	10.1	10.2	10.7	12.9	11.5	10.7	13.0	14.3	14.0	17.4	20.7	21.9	22.9	24.5	22.5	22.6
Old Scrap	5.2	5.4	5.2	6.4	6.8	6.2	5.3	6.1	5.3	6.3	6.7	6.8	7.1	10.7	15.0	16.0	16.9	18.0	16.4	16.1
Total (Table 2, Item 5)	13.1	13.6	14.4	16.2	16.9	16.4	16.0	19.0	16.8	17.0	19.7	21.1	21.1	28.1	35.7	37.9	39.8	42.5	38.9	38.7
Copper Recovered From All Scrap																				
New Scrap	540.1	589.7	675.3	775.7	828.4	683.9	730.6	817.8	745.7	763.2	867.4	916.2	878.2	611.0	736.8	753.1	813.3	971.5	851.0	850.7
Old Scrap	485.6	511.4	570.8	614.3	633.9	578.7	609.0	692.1	626.7	555.0	560.9	582.4	573.7	450.8	496.9	533.8	580.2	621.3	621.0	609.7
Total Copper Recovered	1,025.7	1,101.1	1,246.1	1,390.0	1,462.3	1,262.6	1,339.6	1,509.9	1,372.4	1,318.2	1,428.3	1,498.6	1,451.9	1,061.8	1,233.7	1,286.9	1,393.5	1,592.8	1,472.0	1,460.4

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary.

Table 2, Item 9.

Consumption of copper scrap in the United States

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Consumption of Copper Scrap by:																				
Brass Mills	345.6	374.3	438.5	465.9	485.7	406.9	475.9	516.6	446.5	496.6	578.4	612.5	563.0	406.3	519.3	531.9	541.7	608.0	532.3	552.4
Ingot Makers	233.3	248.2	266.8	283.4	293.0	271.9	278.8	290.3	241.4	257.9	250.5	236.7	215.0	164.0	173.0	195.0	205.5	238.2	214.0	217.9
Foundries	121.4	138.6	145.5	148.9	144.0	133.6	126.6	147.4	129.7	113.4	121.7	122.7	115.4	90.9	95.7	101.2	105.2	113.0	87.0	83.8
Powder Plants	12.3	12.6	16.1	15.9	15.3	16.1	18.1	16.5	12.2	16.5	16.0	17.3	17.7	11.6	16.8	18.3	18.5	18.1	12.8	13.6
Other Industries[a]	40.4	39.3	45.1	46.9	52.0	40.5	38.6	67.0	65.0	63.2	76.4	65.3	56.9	57.5	77.7	88.1	100.5	107.9	102.1	106.0
TOTAL COPPER CONSUMED	753.0	813.0	912.0	961.0	990.0	869.0	938.0	1,037.8	894.8	947.6	1,043.0	1,054.5	968.0	730.3	882.5	934.5	971.4	1,085.2	948.2	979.7

Sources: U.S. Department of the Interior, Bureau of Mines; U.S. Department of Commerce, Bureau of the Census; ABMS.
p - preliminary.
(a) - Chemical, steel, aluminum and other industries.

Table 3

Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

	METAL CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
(1) Consumption of Refined Copper (Table 1, Item 16)	1,608.1	1,752.7	1,862.6	2,033.0	2,376.3	1,983.6	1,878.4	2,150.2	2,050.5	2,021.0	2,237.6	2,448.3	2,203.5	1,542.3	1,997.5	2,193.2	2,421.7	2,386.0	2,058.8	2,084.4
(2) Consumption of Copper in Scrap (Table 2, Item 9)	753.0	813.0	912.0	961.0	990.0	869.0	938.0	1,037.8	894.8	947.6	1,043.0	1,054.5	968.0	730.3	882.5	934.5	971.4	1,085.2	948.2	979.7
(3) Total Copper Consumed (page 15)	2,361.1	2,565.7	2,774.6	2,994.0	3,366.3	2,852.6	2,816.4	3,188.0	2,945.3	2,968.6	3,280.6	3,502.8	3,171.5	2,272.6	2,880.0	3,127.7	3,393.1	3,471.2	3,007.0	3,064.1
(4) Consumption of Zinc	247.4	252.2	273.7	292.5	356.0	274.7	327.1	376.3	288.1	316.3	387.0	381.0	347.2	234.7	323.1	328.8	347.8	358.9	298.1	311.9
(5) Consumption of Lead	30.8	34.5	36.8	37.9	39.5	30.9	31.7	33.7	27.4	25.6	26.1	28.8	28.1	19.7	26.0	30.0	30.1	30.8	25.7	24.4
(6) Consumption of Tin	18.5	19.9	20.2	21.3	23.1	19.7	19.3	19.4	15.9	15.2	22.6	16.3	16.2	11.7	14.4	16.7	16.4	16.4	14.2	13.3
(7) Consumption of Nickel	5.9	6.8	8.4	13.3	12.6	10.8	6.6	10.1	10.3	11.5	11.2	17.2	12.0	12.0	9.7	8.1	7.4	11.2	10.6	13.5
(8) Total Alloying Metal Consumed (page 16)	302.6	313.4	339.1	365.0	431.2	336.1	384.7	439.5	341.7	368.6	446.9	443.3	403.5	278.1	373.2	383.6	401.7	417.3	348.6	363.1
(9) Total Metal Consumed	2,663.7	2,879.1	3,113.7	3,359.0	3,797.5	3,188.7	3,201.1	3,627.5	3,287.0	3,337.2	3,727.5	3,946.1	3,575.0	2,550.7	3,253.2	3,511.3	3,794.8	3,888.5	3,355.6	3,427.2
(10) Ingot Consumed (page 17)[(a)]	272.3	292.1	308.5	331.2	342.0	323.9	326.5	336.6	256.8	276.4	301.3	300.0	284.7	194.3	236.5	258.2	256.6	266.2	235.6	231.2
(11) Ingot Stocks & Other[(a,b)]	−34.1	−30.7	−38.3	−34.7	−55.1	−31.6	−37.8	−43.6	−55.9	−56.6	−32.1	−10.9	−7.2	−24.7	−7.2	−14.2	−21.4	−44.0	−41.2	−44.6
(12) Net Metal Consumed (page 17)	2,629.6	2,848.4	3,075.4	3,324.3	3,742.4	3,157.1	3,163.3	3,583.9	3,231.1	3,280.6	3,695.4	3,935.2	3,567.8	2,526.0	3,246.0	3,497.1	3,773.4	3,844.5	3,314.4	3,382.6
(13) Wire Rod Mills - Net Metal Consumed (page 17)	935.0	1,027.0	1,111.0	1,228.0	1,376.0	1,274.0	1,186.0	1,295.0	1,338.7	1,324.9	1,526.3	1,672.3	1,474.3	1,061.3	1,364.0	1,511.2	1,672.7	1,653.0	1,442.8	1,439.8
(14) Wire Rod Mills - Metal Stocks & Other	−117.0	−170.5	−115.5	−139.5	−129.0	−96.0	−79.5	−33.0	−127.2	−80.9	−176.3	−213.3	−151.8	−29.8	−165.0	−85.2	−175.2	−116.0	−50.3	−13.3
(15) Wire Rod Mills - Metal Contained in Products Supplied (Table 4, Item 10)	818.0	856.5	995.5	1,088.5	1,247.0	1,178.0	1,106.5	1,262.0	1,211.5	1,244.0	1,350.0	1,459.0	1,322.5	1,031.5	1,199.0	1,426.0	1,497.5	1,537.0	1,392.5	1,426.5
(16) Brass Mills - Net Metal Consumed (page 17)	1,197.2	1,288.7	1,395.5	1,502.2	1,753.9	1,312.8	1,421.2	1,657.3	1,371.4	1,448.5	1,615.4	1,700.2	1,577.6	1,067.2	1,407.3	1,464.6	1,549.6	1,619.3	1,380.6	1,454.3
(17) Brass Mills - Metal Stocks & Other	−19.2	−56.7	−2.5	−13.7	−91.4	−14.8	−43.2	−102.3	−114.9	−94.0	−107.4	−41.7	−163.1	−27.7	−104.3	−82.1	−94.1	−86.3	−118.6	−138.8
(18) Brass Mills - Metal Contained in Products Supplied (Table 4, Item 16)	1,178.0	1,232.0	1,393.0	1,488.5	1,662.5	1,298.0	1,378.0	1,555.0	1,256.5	1,354.5	1,508.0	1,658.5	1,414.5	1,039.5	1,303.0	1,382.5	1,455.5	1,533.0	1,262.0	1,315.5
(19) Foundries - Net Metal Consumed (page 17)	403.8	425.3	457.6	476.9	470.3	419.4	422.6	468.1	378.0	364.6	394.0	404.9	380.3	276.0	299.4	326.2	346.2	353.3	297.5	286.4
(20) Foundries - Metal Stocks & Other	−0.8	0.7	−12.1	−32.4	−15.3	−19.9	−27.1	−41.6	−2.5	−12.1	−12.5	−14.9	−44.8	−16.0	−24.9	−36.2	−56.2	−45.0	−53.0	−50.9
(21) Foundries - Metal Contained in Products Supplied (Table 4, Item 21)	403.0	426.0	445.5	444.5	455.0	399.5	395.5	426.5	375.5	352.5	381.5	390.0	335.5	260.0	274.5	290.0	290.0	308.5	244.5	235.5
(22) Powder Plants - Net Metal Consumed (page 17)	27.2	29.9	31.7	34.2	38.7	34.1	37.1	38.0	29.7	32.3	34.6	41.3	36.6	21.8	34.4	36.5	37.4	36.6	26.0	27.6
(23) Powder Plants - Metal Stocks & Other	−3.2	−4.4	−3.2	−3.2	−3.2	−6.1	−6.1	−7.5	−6.2	−6.3	−7.6	−9.3	−2.1	1.2	−1.9	−4.5	−5.9	−3.6	−2.5	−4.1
(24) Powder Plants - Metal Contained in Products Supplied (Table 4, Item 22)	24.0	25.5	28.5	31.0	33.5	28.0	31.0	30.5	23.5	26.0	27.0	32.0	34.5	23.0	32.5	32.0	31.5	33.0	23.5	23.5
(25) Other Industries - Net Metal Consumed (page 17)[(c)]	66.4	77.5	79.6	83.0	103.5	116.8	96.4	125.5	113.3	110.3	125.1	116.5	99.0	99.7	140.9	158.6	167.5	182.1	167.5	174.5

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary

(a) - Ingot makers consume refined copper, scrap copper and alloying metal, and ship to foundries, brass mills, powder plants and other industries.

(b) - The difference between the copper and alloying metal consumed by ingot makers and the ingot consumed by the customers of the ingot makers. This difference consists of melting and other losses in producing ingot, stock changes, and other factors.

(c) - Chemical, steel, aluminum and other industries.

Table 3, Item 3.

Consumption of copper by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

	COPPER CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Consumption of Copper by:																				
Wire Rod Mills – Refined	935.0	1,027.0	1,111.0	1,228.0	1,376.0	1,274.0	1,186.0	1,295.0	1,338.7	1,324.9	1,526.3	1,672.3	1,474.3	1,061.3	1,364.0	1,511.2	1,672.7	1,653.0	1,442.8	1,439.8
Brass Mills[a]																				
Refined	633.2	689.4	711.1	766.2	939.7	658.9	653.6	799.1	660.6	655.8	667.2	714.4	670.2	439.0	584.8	628.6	682.6	672.6	564.0	591.5
Scrap	345.6	374.3	438.5	465.9	485.7	406.9	475.9	516.6	446.5	496.6	578.4	612.5	563.0	406.3	519.3	531.9	541.7	608.0	532.3	558.4
Total	978.8	1,063.7	1,149.6	1,232.1	1,425.4	1,065.8	1,129.5	1,315.7	1,107.1	1,152.4	1,245.6	1,326.9	1,233.2	845.3	1,104.1	1,160.5	1,224.3	1,280.6	1,096.3	1,149.9
Ingot Makers[b]																				
Refined	3.3	3.3	3.5	4.4	17.7	8.6	5.7	6.7	6.8	4.5	6.0	6.1	9.2	4.5	7.5	6.6	8.2	6.9	5.5	5.6
Scrap	233.3	248.2	266.8	283.4	293.0	271.9	278.8	290.3	241.4	257.9	250.5	236.7	215.0	164.0	173.0	195.0	205.5	238.2	214.0	217.9
Total	236.6	251.5	270.3	287.8	310.7	280.5	284.5	297.0	248.2	262.4	256.5	242.8	224.2	168.5	180.5	201.6	213.7	245.1	219.5	223.5
Foundries[a]																				
Refined	18.7	15.7	19.2	16.0	21.4	22.2	14.9	23.8	23.7	17.5	17.9	30.6	28.7	21.7	21.0	22.5	22.1	19.9	18.2	17.5
Scrap	121.4	138.6	145.5	148.9	144.0	133.6	126.6	147.4	129.7	113.4	121.7	122.7	115.4	90.9	95.7	101.2	105.2	113.0	87.0	83.8
Total	140.1	154.3	164.7	164.9	165.4	155.8	141.5	171.2	153.4	130.9	139.6	153.3	144.1	112.6	116.7	123.7	127.3	132.9	105.2	101.3
Powder Plants[a]																				
Refined	7.4	8.1	7.8	9.4	13.1	6.5	7.7	9.8	6.5	7.2	9.5	12.7	12.0	6.8	11.8	11.3	11.5	11.6	8.3	8.8
Scrap	12.3	12.6	16.1	15.9	15.3	16.1	18.1	16.5	12.2	16.5	16.0	17.3	17.7	11.6	16.8	18.3	18.5	18.1	12.8	13.6
Total	19.7	20.7	23.9	25.3	28.4	22.6	25.8	26.3	18.7	23.7	25.5	30.0	29.7	18.4	28.6	29.6	30.0	29.7	21.1	22.4
Other Industries[a,c]																				
Refined	10.5	9.2	10.0	9.0	8.4	13.4	10.5	15.8	14.2	11.1	10.7	12.2	9.1	9.0	8.4	13.0	24.6	22.0	20.0	21.2
Scrap	40.4	39.3	45.1	46.9	52.0	40.5	38.6	67.0	65.0	63.2	76.4	65.3	56.9	57.5	77.7	88.1	100.5	107.9	102.1	106.0
Total	50.9	48.5	55.1	55.9	60.4	53.9	49.1	82.8	79.2	74.3	87.1	77.5	66.0	66.5	86.1	101.1	125.1	129.9	122.1	127.2
All Industries																				
Refined (Table 1, Item 16)	**1,608.1**	**1,752.7**	**1,862.6**	**2,033.0**	**2,376.3**	**1,983.6**	**1,878.4**	**2,150.2**	**2,050.5**	**2,021.0**	**2,237.6**	**2,448.3**	**2,203.5**	**1,542.3**	**1,997.5**	**2,193.2**	**2,421.7**	**2,386.0**	**2,058.8**	**2,084.4**
Scrap (Table 2, Item 9)	**753.0**	**813.0**	**912.0**	**961.0**	**990.0**	**869.0**	**938.0**	**1,037.8**	**894.8**	**947.6**	**1,043.0**	**1,054.5**	**968.0**	**730.3**	**882.5**	**934.5**	**971.4**	**1,085.2**	**948.2**	**979.7**
TOTAL COPPER CONSUMED (Table 3, Item 3)	**2,361.1**	**2,565.7**	**2,774.6**	**2,994.0**	**3,366.3**	**2,852.6**	**2,816.4**	**3,188.0**	**2,945.3**	**2,968.6**	**3,280.6**	**3,502.8**	**3,171.5**	**2,272.6**	**2,880.0**	**3,127.7**	**3,393.1**	**3,471.2**	**3,007.0**	**3,064.1**

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.
p - preliminary
(a) - Direct consumption only; not including consumption of copper in ingots from ingot makers.
(b) - Ingot makers consume refined copper, scrap copper and alloying metal, and ship to foundries, brass mills, powder plants and other industries.
(c) - Chemical, steel, aluminum and other industries.

Table 3, Item 8.

Consumption of alloying metal by brass mills, ingot makers, foundries and powder plants

	ALLOYING METAL CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Consumption of Alloying Metal by																				
Brass Mills[a]																				
Zinc Slab	113.7	115.8	122.3	114.4	169.3	116.9	145.9	158.7	112.2	134.8	177.4	183.6	167.6	104.8	153.1	154.5	162.2	167.0	138.0	147.9
Zinc in Scrap	84.4	88.2	100.3	126.4	129.9	108.9	126.7	156.6	128.8	129.8	156.2	149.2	132.6	94.7	124.5	125.5	139.8	147.3	122.1	128.7
Lead Refined	3.1	3.0	3.0	3.5	3.9	2.3	2.8	3.7	2.5	3.1	3.8	4.9	4.1	2.0	3.5	3.3	3.7	3.9	2.7	2.8
Lead in Scrap	3.6	4.1	4.6	5.2	5.3	2.9	3.6	4.7	3.2	2.9	3.6	3.6	3.3	2.3	3.4	4.5	3.8	4.0	3.3	3.5
Tin Refined	0.9	0.9	1.0	1.2	1.5	1.2	1.2	1.5	1.2	1.1	1.0	1.1	1.1	0.6	0.8	0.7	0.8	0.8	0.8	0.8
Tin in Scrap	0.1	0.2	0.3	0.3	0.4	0.5	0.5	0.7	0.5	0.4	0.5	0.5	0.5	0.3	0.3	0.6	0.5	0.5	0.4	0.4
Nickel Refined	4.0	4.4	5.4	9.3	5.2	3.6	3.4	5.9	5.1	6.1	6.5	5.4	7.1	7.5	5.5	4.6	4.8	7.6	8.4	11.3
Nickel in Scrap	1.6	1.8	2.4	3.3	6.4	6.3	2.4	3.3	4.6	4.7	4.1	10.5	4.2	4.1	3.8	3.1	2.2	3.1	1.8	1.9
Total	211.4	218.4	239.3	263.6	321.9	242.6	286.5	335.1	258.1	282.9	353.1	358.8	320.5	216.3	294.9	296.8	317.8	334.2	277.5	297.3
Ingot Makers																				
Zinc Slab	10.9	7.8	8.6	7.4	9.4	8.1	12.2	13.6	9.9	10.4	7.1	6.9	8.2	6.6	7.7	8.3	7.3	7.5	18.9	22.4
Zinc in Scrap	26.9	29.2	31.3	33.0	35.2	31.3	32.8	34.5	26.7	31.2	33.9	29.4	28.2	20.8	26.8	29.1	25.0	25.2	9.9	3.9
Lead in Scrap	17.9	19.4	20.7	21.3	23.6	20.1	19.9	20.1	16.1	16.8	16.2	18.0	18.1	13.4	13.9	19.7	19.2	19.4	17.1	15.6
Tin in Scrap	13.8	14.3	15.3	15.7	17.2	14.6	14.1	14.1	11.2	11.5	19.1	12.5	12.5	9.3	11.4	13.3	12.4	12.5	11.0	10.1
Nickel in Scrap	0.3	0.6	0.6	0.7	1.0	0.9	0.8	0.9	0.6	0.7	0.6	1.3	0.7	0.4	0.4	0.4	0.4	0.5	0.4	0.3
Total	69.8	71.3	76.5	78.1	86.4	75.0	79.8	83.2	64.5	70.6	76.9	68.1	67.7	50.5	63.2	70.8	64.3	65.1	57.3	52.3
Foundries[a]																				
Zinc Slab	4.9	4.0	3.3	3.1	3.4	2.3	2.3	6.0	4.6	4.5	6.8	6.0	4.4	3.1	4.2	4.5	4.9	4.0	3.1	3.3
Zinc in Scrap	3.7	4.0	4.6	4.3	4.4	3.4	3.4	3.4	3.2	2.7	2.8	2.7	3.5	3.0	4.1	4.2	5.6	5.2	4.2	3.7
Lead in Scrap	6.2	8.0	8.5	7.9	6.7	5.6	5.4	5.2	5.6	2.8	2.5	2.3	2.6	2.0	2.2	2.5	3.4	3.5	2.6	2.5
Tin in Scrap	2.4	2.7	2.9	2.7	2.4	2.0	1.9	1.8	2.0	1.1	1.0	1.0	1.1	0.9	0.9	1.1	1.6	1.6	1.3	1.2
Total	17.2	18.7	19.3	18.0	16.9	13.3	13.0	16.4	15.4	11.1	13.1	12.0	11.6	9.0	11.4	12.3	15.5	14.3	11.2	10.7
Powder Plant[a]																				
Zinc Slab	0.3	0.7	0.9	2.0	3.5	3.0	1.6	1.2	1.0	0.7	0.7	1.1	1.3	0.8	1.2	1.6	1.6	1.6	1.1	1.2
Zinc in Scrap	2.6	2.5	2.4	1.9	0.9	0.8	2.2	2.3	1.7	2.2	2.1	2.1	1.4	0.9	1.5	1.1	1.4	1.1	0.8	0.8
Tin Refined	1.3	1.8	0.7	1.4	1.6	1.4	1.6	1.3	1.0	1.1	1.0	1.2	1.0	0.6	1.0	1.0	1.1	1.0	0.7	0.8
Total	4.2	5.0	4.0	5.3	6.0	5.2	5.4	4.8	3.7	4.0	3.8	4.4	3.7	2.3	3.7	3.7	4.1	3.7	2.6	2.8
All Industries																				
Zinc Slab	**129.8**	**128.3**	**135.1**	**126.9**	**185.6**	**130.3**	**162.0**	**179.5**	**127.7**	**150.4**	**192.0**	**197.6**	**181.5**	**115.3**	**166.2**	**168.9**	**176.0**	**180.1**	**161.1**	**174.8**
Zinc in Scrap	**117.6**	**123.9**	**138.6**	**165.6**	**170.4**	**144.4**	**165.1**	**196.8**	**160.4**	**165.9**	**195.0**	**183.4**	**165.7**	**119.4**	**156.9**	**159.9**	**171.8**	**178.8**	**137.0**	**137.1**
Lead Refined	**3.1**	**3.0**	**3.0**	**3.5**	**3.9**	**2.3**	**2.8**	**3.7**	**2.5**	**3.1**	**3.8**	**4.9**	**4.1**	**2.0**	**3.5**	**3.3**	**3.7**	**3.9**	**2.7**	**2.8**
Lead in Scrap	**27.7**	**31.5**	**33.8**	**34.4**	**35.6**	**28.6**	**28.9**	**30.0**	**24.9**	**22.5**	**22.3**	**23.9**	**24.0**	**17.7**	**22.5**	**26.7**	**26.4**	**26.9**	**23.0**	**21.6**
Tin Refined	**2.2**	**2.7**	**1.7**	**2.6**	**3.1**	**2.6**	**2.8**	**2.8**	**2.2**	**2.2**	**2.0**	**2.3**	**2.1**	**1.2**	**1.8**	**1.7**	**1.9**	**1.8**	**1.5**	**1.6**
Tin in Scrap	**16.3**	**17.2**	**18.5**	**18.7**	**20.0**	**17.1**	**16.5**	**16.6**	**13.7**	**13.0**	**20.6**	**14.0**	**14.1**	**10.5**	**12.6**	**15.0**	**14.5**	**14.6**	**12.7**	**11.7**
Nickel Refined	**4.0**	**4.4**	**5.4**	**9.3**	**5.2**	**3.6**	**3.4**	**5.9**	**5.1**	**6.1**	**6.5**	**5.4**	**7.1**	**7.5**	**5.5**	**4.6**	**4.8**	**7.6**	**8.4**	**11.3**
Nickel in Scrap	**1.9**	**2.4**	**3.0**	**4.0**	**7.4**	**7.2**	**3.2**	**4.2**	**5.2**	**5.4**	**4.7**	**11.8**	**4.9**	**4.5**	**4.2**	**3.5**	**2.6**	**3.6**	**2.2**	**2.2**
TOTAL ALLOYING METAL CONSUMED																				
(Table 3, Item 8)	**302.6**	**313.4**	**339.1**	**365.0**	**431.2**	**336.1**	**384.7**	**439.5**	**341.7**	**368.6**	**446.9**	**443.3**	**403.5**	**278.1**	**373.2**	**383.6**	**401.7**	**417.3**	**348.6**	**363.1**

Sources: U.S. Department of the Interior, Bureau of Mines, ABMS.
p - preliminary
(a) - Direct consumption only: not including consumption of alloying metal in ingots from ingot makers.

Table 3, Item 12.

Net consumption of metals by wire rod mills, brass mills, foundries, powder plants, and other industries

	METAL CONTENT, thousands of short tons																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Net Metal Consumed by																				
Wire Rod Mills - Copper (Table 3, Item 13)	935.0	1,027.0	1,111.0	1,228.0	1,376.0	1,274.0	1,186.0	1,295.0	1,338.7	1,324.9	1,526.3	1,672.3	1,474.3	1,061.3	1,364.6	1,511.2	1,672.7	1,653.0	1,442.8	1,439.8
Brass Mills																				
Copper	978.8	1,063.7	1,149.6	1,232.1	1,425.4	1,065.8	1,129.5	1,315.7	1,107.1	1,152.4	1,245.6	1,326.9	1,233.2	845.3	1,104.1	1,160.5	1,224.3	1,280.6	1,096.3	1,149.9
Alloy	211.4	218.4	239.3	263.6	321.9	242.6	286.5	335.1	258.1	282.9	353.1	358.8	320.5	216.3	294.9	296.8	317.8	334.2	277.5	297.3
Ingot	7.0	6.6	6.6	6.5	6.6	4.4	5.2	6.5	6.2	13.2	16.7	14.5	23.9	5.6	8.3	7.3	7.5	4.5	6.8	7.1
Total (Table 3, Item 16)	1,197.2	1,288.7	1,395.5	1,502.2	1,753.9	1,312.8	1,421.2	1,657.3	1,371.4	1,448.5	1,615.4	1,700.2	1,577.6	1,067.2	1,407.3	1,464.6	1,549.6	1,619.3	1,380.6	1,454.3
Foundries																				
Copper	140.1	154.3	164.7	164.9	165.4	155.8	141.5	171.2	153.4	130.9	139.6	153.3	144.1	112.6	116.7	123.7	127.3	132.9	105.2	101.3
Alloy	17.2	18.7	19.3	18.0	16.9	13.3	13.0	16.4	15.4	11.1	13.1	12.0	11.6	9.0	11.4	12.3	15.5	14.3	11.2	10.7
Ingot	246.5	252.3	273.6	294.0	288.0	250.3	268.1	280.5	209.2	222.6	241.3	239.6	224.6	154.4	171.3	190.2	203.4	206.3	181.1	174.4
Total (Table 3, Item 19)	403.8	425.3	457.6	476.9	470.3	419.4	422.6	468.1	378.0	364.6	394.0	404.9	380.3	276.0	299.4	326.2	346.2	353.5	297.5	286.4
Powder Plants																				
Copper	19.7	20.7	23.9	25.3	28.4	22.6	25.8	26.3	18.7	23.7	25.5	30.0	29.7	18.4	28.6	29.6	30.0	29.7	21.1	22.4
Alloy	4.2	5.0	4.0	5.3	6.0	5.2	5.4	4.8	3.7	4.0	3.8	4.4	3.7	2.3	3.7	3.7	4.1	3.7	2.6	2.8
Ingot	3.3	4.2	3.8	3.6	4.3	6.3	5.9	6.9	7.3	4.6	5.3	6.9	3.2	1.1	2.1	3.2	3.3	3.2	2.3	2.4
Total (Table 3, Item 22)	27.2	29.9	31.7	34.2	38.7	34.1	37.1	38.0	29.7	32.3	34.6	41.3	36.6	21.8	34.4	36.5	37.4	36.6	26.0	27.6
Other Industries[a]																				
Copper	50.9	48.5	55.1	55.9	60.4	53.9	49.1	82.8	79.2	74.3	87.1	77.5	66.0	66.5	86.1	101.1	125.1	129.9	122.1	127.2
Ingot	15.5	29.0	24.5	27.1	43.1	62.9	47.3	42.7	34.1	36.0	38.0	33.5	33.0	33.2	54.8	57.5	42.4	52.2	45.4	47.3
Total (Table 3, Item 25)	66.4	77.5	79.6	83.0	103.5	116.8	96.4	125.5	113.3	110.3	125.1	116.5	99.0	99.7	140.9	158.6	167.5	182.1	167.5	174.5
All Industries																				
Copper	2,124.5	2,314.2	2,504.3	2,706.2	3,055.6	2,572.1	2,531.9	2,891.0	2,697.1	2,706.2	3,024.1	3,260.0	2,947.3	2,104.1	2,699.5	2,926.1	3,179.4	3,226.1	2,787.5	2,840.6
Alloy	232.8	242.1	262.6	286.9	344.8	261.1	304.9	356.3	277.2	298.0	370.0	375.2	335.8	227.6	310.0	312.8	337.4	352.2	291.3	310.8
Ingot (Table 3, Item 10)[b]	272.3	292.1	308.5	331.2	342.0	323.9	326.5	336.6	256.8	276.4	301.3	300.0	284.7	194.3	236.5	258.2	256.6	266.2	235.6	231.2
NET METAL CONSUMED (Table 3, Item 12)	2,629.6	2,848.4	3,075.4	3,324.3	3,742.4	3,157.1	3,163.3	3,583.9	3,231.1	3,280.6	3,695.4	3,935.2	3,567.8	2,526.0	3,246.0	3,497.1	3,773.4	3,844.5	3,314.4	3,382.6

Sources: U.S. Department of the Interior, Bureau of Mines; ABMS.

p - preliminary

(a) - Chemical, steel, aluminum and other industries.

(b) - Total consumption of ingot shown here is less than the consumption of metal by ingot makers shown in the details of Table 3, Item 3 and Table 3, Item 8. The difference, shown as Ingot Stocks & Other in Table 3, is primarily melting and other losses in the making of ingot.

Table 4

Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets

	METAL CONTENT, millions of pounds																			
	1962	1963		1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
(1) Bare Wire	165	171	201	207	269	235	242	245	226	218	270	209	219	167	199	230	238	236	240	250
(2) Communication Wire and Cable	370	444	519	539	565	543	534	716	735	803	766	873	799	584	687	836	885	971	851	830
(3) Building Wire									484	552	580	666	557	483	545	658	718	695	598	625
(4) Magnet Wire									466	427	496	537	446	338	451	516	525	531	460	512
(5) Power Cable									274	236	262	295	292	216	206	233	237	260	276	268
(6) Apparatus Wire and Cordage	1,101	1,098	1,271	1,431	1,660	1,578	1,437	1,563	135	137	169	185	179	140	163	209	209	210	206	209
(7) Automotive Wire and Cable (exc. Magnet)									36	46	67	74	64	54	72	90	94	84	63	67
(8) Other Insulated Wire and Cable									67	69	90	79	89	81	75	80	89	87	91	92
(9) Total Insulated Wire and Cable	1,471	1,542	1,790	1,970	2,225	2,121	1,971	2,279	2,197	2,270	2,430	2,709	2,426	1,896	2,199	2,622	2,757	2,838	2,545	2,603
(10) Total Wire Mill Products[a]	**1,636**	**1,713**	**1,991**	**2,177**	**2,494**	**2,356**	**2,213**	**2,524**	**2,423**	**2,488**	**2,700**	**2,918**	**2,645**	**2,063**	**2,398**	**2,852**	**2,995**	**3,074**	**2,785**	**2,853**
(11) Strip, Sheet and Plate	784	809	923	1,021	1,314	1,007	1,033	1,147	883	964	1,074	1,192	1,079	853	998	1,007	1,045	1,105	896	998
(12) Mechanical Wire	103	105	127	135	140	115	113	130	111	111	128	126	106	64	88	92	102	110	78	80
(13) Rod and Bar	652	668	753	828	901	666	787	886	693	770	910	1,005	899	587	824	898	942	966	809	810
(14) Plumbing Tube and Pipe	473	520	581	579	473	399	400	433	378	447	463	519	347	310	374	439	459	483	414	401
(15) Commercial Tube and Pipe	344	362	402	414	497	409	423	514	448	417	441	475	398	265	322	329	363	402	327	342
(16) Total Brass Mill Products (page 19)	**2,356**	**2,464**	**2,786**	**2,977**	**3,325**	**2,596**	**2,756**	**3,110**	**2,513**	**2,709**	**3,016**	**3,317**	**2,829**	**2,079**	**2,606**	**2,765**	**2,911**	**3,066**	**2,524**	**2,631**
(17) Sand Castings	721	767	799	793	769	671	658	711	620	597	654	667	566	447	491	524	521	542	434	414
(18) Permanent Mold Castings	40	40	42	45	58	54	55	56	49	46	39	33	30	19	15	19	22	38	23	18
(19) Die Castings	16	17	20	21	26	20	25	24	22	20	23	23	18	10	10	8	10	8	4	3
(20) Other Castings	29	28	30	30	57	54	53	62	60	42	47	57	57	44	33	29	27	29	28	36
(21) Total Foundry Products	**806**	**852**	**891**	**889**	**910**	**799**	**791**	**853**	**751**	**705**	**763**	**780**	**671**	**520**	**549**	**580**	**580**	**617**	**489**	**471**
(22) Total Powder Products	**48**	**51**	**57**	**62**	**67**	**56**	**62**	**61**	**47**	**52**	**54**	**64**	**69**	**46**	**65**	**64**	**63**	**66**	**47**	**47**
(23) Domestic Products - Total	**4,846**	**5,080**	**5,725**	**6,105**	**6,796**	**5,807**	**5,822**	**6,548**	**5,734**	**5,954**	**6,533**	**7,079**	**6,214**	**4,708**	**5,618**	**6,261**	**6,549**	**6,823**	**5,845**	**6,002**
(24) Net Imports of Mill Products (page 20)	67	81	127	127	232	177	261	129	132	170	213	179	89	55	218	188	276	181	−19	202
(25) Mill Products to Domestic Market*	**4,913**	**5,161**	**5,852**	**6,232**	**7,028**	**5,984**	**6,083**	**6,677**	**5,866**	**6,124**	**6,746**	**7,258**	**6,303**	**4,763**	**5,836**	**6,449**	**6,825**	**7,004**	**5,826**	**6,204**
(26) Building Construction[b]	1,533	1,624	1,814	1,914	2,015	1,648	1,655	1,826	1,650	1,830	2,035	2,201	1,752	1,397	1,719	1,959	2,108	2,096	1,707	1,799
(27) Electrical and Electronic Products[b]	1,113	1,185	1,388	1,485	1,696	1,457	1,424	1,676	1,560	1,637	1,704	1,848	1,690	1,192	1,506	1,692	1,767	1,881	1,664	1,707
(28) Industrial Machinery and Equipment[b]	1,110	1,152	1,280	1,317	1,470	1,273	1,294	1,391	1,235	1,190	1,326	1,412	1,241	890	1,064	1,143	1,214	1,246	1,104	1,184
(29) Transportation Equipment[b]	552	577	639	711	757	594	652	720	588	678	761	886	733	587	822	905	881	855	597	684
(30) Consumer and General Products[b]	605	623	731	805	1,090	1,012	1,058	1,064	813	789	920	911	887	697	725	750	855	926	754	830

*Markets include: Building Construction: Plumbing & Heating; Building Wiring; Air Conditioning & Commercial Refrigeration; Builders' Hardware; Architectural.

Electrical & Electronic Products: Telecommunications; Power Utilities; Lighting & Wiring Devices; Electronics (except Consumer).

Industrial Machinery & Equipment: Heavy Industrial Equipment; Industrial Valves & Fittings; Heat Exchangers; Off-Highway Vehicles; Non-Electrical Instruments.

Transportation Equipment: Automobile; Truck & Bus; Railroad; Marine; Aircraft & Aerospace.

Consumer & General Products: Appliances; Fasteners & Closures; Military & Commercial Ordnance; Coinage; Utensils & Cutlery; Misc.

Sources: U.S. Department of Commerce, Bureau of the Census and Bureau of Industrial Economics; CDA.

p - preliminary.

(a) - Copper content.

(b) - Revised data for 1962 through 1980.

Table 4, Item 16.

Supply of brass mill products in the United States

METAL CONTENT, millions of pounds

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Strip, Sheet and Plate																				
Copper	220	236	243	272	354	240	190	238	185	236	238	275	260	206	225	235	225	266	200	229
Alloy	564	573	680	749	960	767	843	909	698	728	836	947	819	647	773	772	810	839	696	769
Total	784	809	923	1,021	1,314	1,007	1,033	1,147	883	964	1,074	1,192	1,079	853	998	1,007	1,045	1,105	896	998
Mechanical Wire																				
Copper	11	12	15	15	15	11	10	15	14	16	20	14	15	7	10	14	20	26	13	15
Alloy	92	93	112	120	125	104	103	115	97	95	108	112	91	57	78	78	82	84	65	65
Total	103	105	127	135	140	115	113	130	111	111	128	126	106	64	88	92	102	110	78	80
Rod and Bar																				
Copper	96	98	120	137	146	119	130	146	115	135	117	135	149	77	99	111	116	123	117	116
Alloy	556	570	633	691	755	547	657	740	578	635	793	870	750	510	725	787	826	843	692	694
Total	652	668	753	828	901	666	787	886	693	770	910	1,005	899	587	824	898	942	966	809	810
Plumbing Tube and Pipe																				
Copper	445	489	547	548	448	381	385	415	363	431	446	502	335	302	366	432	451	475	407	393
Alloy	28	31	34	31	25	18	15	18	15	16	17	17	12	8	8	7	8	8	7	8
Total	473	520	581	579	473	399	400	433	378	447	463	519	347	310	374	439	459	483	414	401
Commercial Tube and Pipe																				
Copper	230	258	287	290	362	260	276	363	304	276	321	334	252	165	211	228	267	304	244	255
Alloy	114	104	115	124	135	149	147	151	144	141	120	141	146	97	111	101	96	98	83	87
Total	344	362	402	414	497	409	423	514	448	417	441	475	398	265	322	329	363	402	327	342
All Mill Products																				
Copper	1,002	1,093	1,212	1,262	1,325	1,011	991	1,177	981	1,094	1,142	1,260	1,011	760	911	1,020	1,089	1,194	981	1,008
Alloy	1,354	1,371	1,574	1,715	2,000	1,585	1,765	1,933	1,532	1,615	1,874	2,057	1,818	1,319	1,695	1,745	1,822	1,872	1,543	1,623
TOTAL BRASS MILL PRODUCTS	2,356	2,464	2,786	2,977	3,325	2,596	2,756	3,110	2,513	2,709	3,016	3,317	2,829	2,079	2,606	2,765	2,911	3,066	2,524	2,631

Sources: U.S. Department of Commerce, Bureau of Industrial Economics; CDA.
p - preliminary

Supply of brass mill products in selected countries

METAL CONTENT, millions of pounds

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Benelux	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	329	304	258	316	335	306	314	299	271
Canada	165	176	211	200	253	228	261	269	231	221	236	281	264	192	223	232	272	264	189	223
France	427	447	495	493	492	479	497	597	585	580	598	667	603	476	569	586	590	638	657	615
Germany	702	733	897	922	831	780	968	1,103	1,067	986	1,130	1,311	1,157	932	1,219	1,207	1,219	1,337	1,403	1,285
Italy	366	404	350	376	397	437	453	479	527	494	572	626	654	520	647	639	652	650	734	694
Japan	671	647	864	687	730	929	1,030	1,160	1,201	1,152	1,330	1,682	1,298	1,148	1,546	1,573	1,722	1,874	1,912	1,822
Scandinavia	230	237	284	286	268	247	272	277	279	260	286	316	316	247	285	295	321	348	340	320
Spain	71	76	74	96	98	92	110	138	132	133	167	193	181	133	178	183	174	191	184	148
Switzerland	114	101	107	107	109	99	99	110	116	104	100	114	118	81	96	116	105	111	120	107
United Kingdom	931	1,010	1,156	1,149	1,041	924	1,019	1,035	956	842	905	1,004	903	737	803	827	845	797	644	563
United States	2,356	2,464	2,786	2,977	3,325	2,596	2,756	3,110	2,513	2,709	3,016	3,317	2,829	2,079	2,606	2,765	2,911	3,066	2,524	2,631

Sources: World Bureau of Metal Statistics; U.S. Department of Commerce, Bureau of Industrial Economics; CDA.
p - preliminary
NA - not available

Table 4, Item 24.

Imports and exports of wire mill, brass mill and powder products

	METAL CONTENT, millions of pounds																			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981[p]
Imports of:																				
Wire Rod	0.4	1.0	10.5	10.4	7.8	6.1	13.0	2.4	2.4	3.0	3.0	5.3	2.8	1.5	2.5	13.8	7.0	6.2	5.4	6.0
Bare Wire (incl. Stranded)	7.5	7.3	19.0	28.0	31.0	24.0	28.0	22.0	35.0	27.0	19.3	26.9	42.9	22.0	39.0	27.5	32.8	30.8	18.9	22.3
Insulated Wire and Cable											11.5	14.9	12.3	9.2	11.0	11.1	18.2	23.4	21.8	19.2
Total Wire Mill Products	**7.9**	**8.3**	**29.5**	**38.4**	**38.8**	**30.1**	**41.0**	**24.4**	**37.4**	**30.0**	**33.8**	**46.2**	**58.0**	**32.7**	**52.5**	**52.4**	**58.0**	**60.4**	**46.1**	**47.5**
Copper - Strip, Sheet and Plate	17.5	22.5	37.1	44.6	35.0	41.9	77.5	30.9	26.9	38.7	45.7	48.7	46.9	37.8	59.9	64.7	85.8	80.1	54.1	71.9
Rod and Bar	–	–	3.6	2.6	5.2	2.8	8.7	1.4	3.5	4.1	6.1	6.0	6.7	4.2	6.6	8.0	17.5	17.0	12.0	12.4
Tube and Pipe	13.6	12.1	13.7	19.6	51.1	31.5	48.7	31.4	36.4	43.1	51.6	55.0	31.3	24.3	33.7	39.9	46.3	44.8	22.9	33.8
Alloy - Strip, Sheet and Plate	28.8	30.1	29.6	30.0	63.8	59.8	64.6	45.5	47.8	74.4	92.4	84.9	57.2	51.4	104.6	105.7	155.4	123.6	82.3	143.5
Mechanical Wire	2.7	3.4	3.8	1.9	2.3	1.9	2.4	2.0	3.2	4.0	4.3	5.7	4.1	2.6	6.3	7.9	9.9	9.7	7.9	10.4
Rod and Bar	17.9	19.2	17.0	10.8	44.0	28.0	15.3	12.0	6.9	7.3	12.5	17.9	16.2	11.7	41.7	33.4	50.2	46.2	25.3	119.1
Tube and Pipe	29.4	32.7	40.4	41.1	46.7	36.3	50.4	44.9	40.3	47.6	53.1	48.2	40.4	32.4	47.3	47.2	69.5	54.4	43.6	51.5
Total Brass Mill Products	**109.9**	**120.0**	**145.2**	**150.6**	**248.1**	**202.2**	**267.6**	**168.1**	**165.0**	**219.2**	**265.7**	**266.4**	**202.8**	**164.4**	**300.1**	**306.8**	**434.6**	**375.8**	**248.1**	**442.6**
Total Powder Products	**1.9**	**2.1**	**2.5**	**2.6**	**2.9**	**3.0**	**3.5**	**2.8**	**2.3**	**2.4**	**2.7**	**2.3**	**1.7**	**1.6**	**2.6**	**2.4**	**2.5**	**2.3**	**2.0**	**2.7**
TOTAL IMPORTS	**119.7**	**130.4**	**177.2**	**191.6**	**289.8**	**235.3**	**312.1**	**195.3**	**204.7**	**251.6**	**302.2**	**314.9**	**262.5**	**198.7**	**355.2**	**361.6**	**495.1**	**438.5**	**296.2**	**492.8**
Exports of:																				
Wire Rod	13.5	11.6	8.9	8.9	10.1	10.4	5.4	7.2	8.3	14.6	10.9	10.4	14.0	10.9	8.5	11.2	15.4	34.8	73.4	33.0
Bare Wire (incl. Stranded)[(a)]	5.7	6.3	10.4	7.0	6.3	8.8	4.1	8.1	4.2	2.9	5.5	10.4	11.3	7.4	9.6	11.7	18.7	18.8	13.9	15.5
Insulated Wire and Cable	22.1	19.2	18.1	23.7	22.9	20.3	23.5	26.1	30.3	29.8	35.5	41.1	55.2	69.6	66.8	98.5	121.8	103.0	85.1	119.4
Total Wire Mill Products	**41.3**	**37.1**	**37.4**	**39.6**	**39.3**	**39.5**	**33.0**	**41.4**	**42.8**	**47.3**	**51.9**	**61.9**	**80.5**	**87.9**	**84.9**	**121.4**	**155.9**	**156.6**	**172.4**	**167.9**
Copper - Strip, Sheet and Plate	0.7	0.7	0.8	2.3	1.6	1.8	1.7	3.2	3.3	1.5	0.9	1.8	2.2	0.8	1.4	4.2	2.9	3.3	6.7	7.3
Rod and Bar	–	–	–	2.7	2.1	0.7	2.2	2.0	3.7	0.9	1.7	4.4	2.7	8.1	1.4	2.6	3.6	8.1	17.1	7.7
Tube and Pipe	1.7	2.3	2.9	1.8	1.0	1.4	1.2	1.9	2.1	2.5	2.3	15.5	13.5	4.4	5.1	6.2	5.8	18.8	38.9	24.1
Alloy - Strip, Sheet and Plate	2.3	1.3	2.2	6.9	2.4	2.2	2.5	4.7	4.6	4.2	7.9	12.2	14.5	6.4	8.3	8.6	9.0	10.4	17.3	28.4
Mechanical Wire	0.7	1.1	0.7	1.6	2.2	1.8	2.2	2.4	4.0	3.5	2.5	3.6	8.4	5.0	4.8	4.2	6.9	8.2	8.0	7.9
Rod and Bar	1.8	1.6	2.1	4.1	3.5	4.4	3.3	4.2	6.1	12.9	14.3	17.4	30.4	15.5	15.2	15.8	19.3	15.2	20.1	18.6
Tube and Pipe	3.5	4.3	2.7	3.8	3.9	4.2	3.0	3.5	3.3	5.1	4.1	13.7	16.0	13.2	12.4	7.0	12.0	32.9	31.0	26.6
Total Brass Mill Products	**10.7**	**11.3**	**11.4**	**23.2**	**16.7**	**16.5**	**16.1**	**21.9**	**27.1**	**30.6**	**33.7**	**68.6**	**87.7**	**53.4**	**48.6**	**48.6**	**59.5**	**96.9**	**139.1**	**120.6**
Total Powder Products	**1.0**	**1.1**	**1.0**	**1.9**	**2.2**	**2.0**	**2.3**	**3.5**	**3.0**	**3.9**	**3.7**	**5.0**	**5.4**	**2.5**	**3.7**	**3.5**	**3.8**	**3.9**	**3.9**	**2.5**
TOTAL EXPORTS	**53.0**	**49.5**	**49.8**	**64.7**	**58.2**	**58.0**	**51.4**	**66.6**	**72.9**	**81.8**	**89.3**	**135.5**	**173.6**	**143.8**	**137.2**	**173.5**	**219.2**	**257.4**	**315.4**	**291.0**
NET IMPORTS (Table 4, Item 24)	**66.7**	**80.9**	**127.4**	**126.9**	**231.6**	**177.3**	**260.7**	**128.5**	**131.8**	**169.8**	**212.9**	**179.4**	**88.9**	**54.9**	**218.0**	**188.1**	**275.9**	**181.1**	**–19.2**	**201.8**

Sources: U.S. Department of Commerce, Bureau of the Census; CDA.
p - preliminary
(a) - Stranded not included prior to 1972.